

A NEW SPECIES OF *COPTODISCA* (HELIOZELIDAE)
FROM MISSISSIPPI ON FARKLEBERRY
(*VACCINIUM ARBOREUM*)

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Coptodisca is a genus of very small moths. The forewing has silver and black markings on a white and yellow ground. The larva forms a mine in the leaf of its host by eating out the tissue between the upper and lower epidermis. When mature, the larva cuts a disc of tissue out of the leaf and uses it to form a cocoon. All known species of *Coptodisca* feed on woody plants, and most are restricted to a single plant genus. Nineteen species of *Coptodisca* have been described.

***Coptodisca matheri* Lafontaine, new species**

Figs. 1, 3, 4

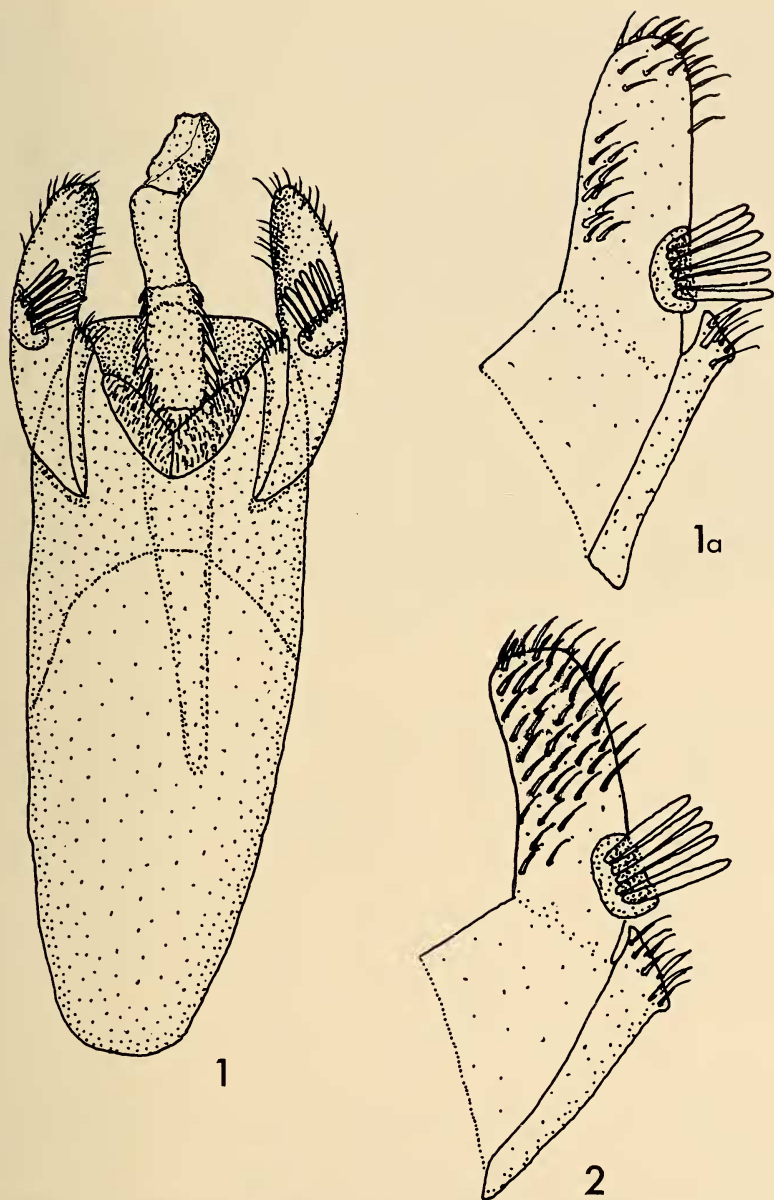
Antenna fuscous, vertex of head golden, face and labial palps white. **Thorax** and **abdomen** silver-grey above, white below. **Forewing** with silvery white basal half, and light yellow apical half. A (costal) spot two thirds of distance along costa and a spot opposite it on inner margin, each extending one third of the way across wing. Costal spot white, margined with dark grey. Spot on inner margin light grey, margined with dark grey. A grey patch at tornus which extends from distal edge of spot on inner margin to dorsum and termen. Apical patch wedge-shaped with a circular black base followed by a fan-shaped row of scales with light brown bases and black tips. Apical patch preceded and margined on both sides by white scales, separated from dark patch at tornus by yellow ground basally and some white scales distally. Yellow ground blending into dark patch at tornus between apex of spot on inner margin and apical patch. A small black wedge distal to costal spot, parallel to outer margin of spot. Cilia whitish grey, with black pencil of scales extending outward from apical patch. **Hindwing** and cilia uniformly whitish grey. **Expanse** $4.1 \pm .3^*$ mm. (6 specimens).

Male genitalia (Fig. 1): Genitalia excluding valves, $2\frac{1}{2}$ to 3 times as long as wide. Comb on valve with 6 teeth. Saccular setae on inner surface of valve in two small patches, one near dorsal edge and one near apex.

Female genitalia (Fig. 3): Similar to those of other species of *Coptodisca* except for tip of ovipositor. Central point of five pointed ovipositor is smallest. In other species of *Coptodisca* feeding on plants in Ericaceae central point enlarged and bulb-shaped, much larger than the other four points.

Type material: **Holotype** male, Jackson, Mississippi, emerged 7 September 1965 (Bryant Mather). Reared from *Vaccinium arboreum* Marsh. Type No. 13032 in Canadian National Collection. **Allotype** female, Jackson, Mississippi, emerged 25 January 1965 (Mather). **Paratypes**, one male, Jackson, Mississippi, emerged 25 January 1965 (Mather); two males, Clinton, Mississippi, emerged 22 December 1969 (Mather). Allotype and paratypes reared from same host as holotype. All specimens reared in laboratory at Ottawa.

* standard deviation



Figs. 1, 1a, 2. Male genitalia of *Coptodisca* spp.: 1, *C. matheri* n.sp.; 1a, right valve of *C. matheri*; 2, right valve of *C. negligens* Braun.

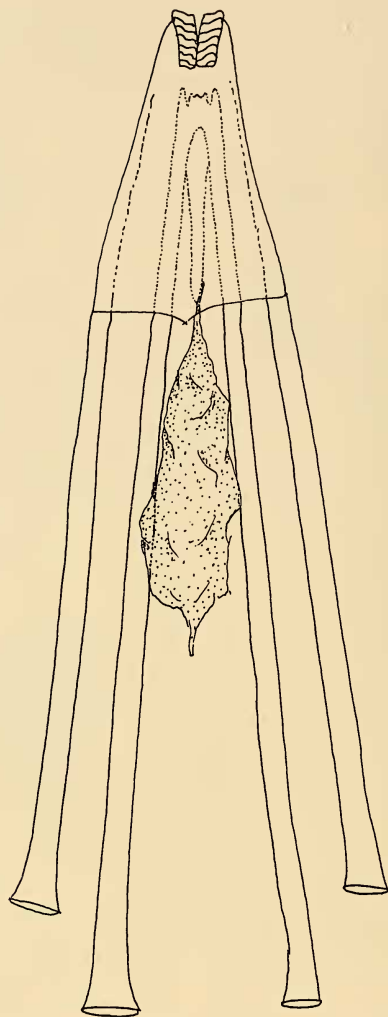


Fig. 3. Female genitalia of *Coptodisca matheri* n.sp.

Distribution: Known only from central Mississippi but undoubtedly more widely distributed.

Foodplant. Farkleberry (*Vaccinium arboreum* Marsh.)

Mine. The mine usually follows the leaf margin. It begins at the base of the leaf near the top of the petiole as a serpentine mine, and widens into an elongate blotch slightly wider than the oval disc cocoon cut from the mine by the larva. The initial portion of the mine is completely filled with frass. Mr. Mather's observations of the mining habits of this species on Farkleberry indicate that there are at least two generations each year.



Fig. 4. *Coptodisca matheri* n.sp., upperside of holotype.

This is the most lightly coloured species of those which feed on plants of the Heath family. *Coptodisca matheri* can be separated from *C. arbutiella* Busck (1904: 769) and *C. kalmiella* Dietz (1921: 44) by the lack of the dark lead ground colour on the basal half of the forewing present in *arbutiella* and *kalmiella*. The comb on the valve of the male genitalia of *matheri* has 6 teeth, not 7 to 9 as in *arbutiella* and *kalmiella*.

Coptodisca matheri is most easily separated from *C. magnella* Braun (1920: 79) by its lack of a sharp contrast on the forewing between the yellow ground colour and the dark patch at tornus. In *matheri* the pale yellow ground colour gradually blends into the dark colour of the patch at tornus.

Coptodisca matheri differs from Dr. Braun's (1916: 138) description of *C. negligens*, and from specimens which match her description reared from *Vaccinium angustifolium* Ait., by the lighter yellow colour on the forewing, and by the golden rather than grey colour of the scales on the vertex of the head. The valve of the male genitalia of *matheri* (Fig. 1a) is much less extensively setose than that of *negligens* (Fig. 2). The comb on the valve of *matheri* has 6 teeth not 5 as in *negligens*.

The following is a key to the known species of *Coptodisca* which feed on species of plants in the Heath family (Ericaceae).

- 1—Yellow ground colour continuous between costal spot and spot on inner margin 2
- Ground colour interrupted between these spots by a mottling of dark scales 4
- 2—Head silvery-lead, concolorous with thorax and base of forewing; *Arbutus*-feeder *C. arbutiella*
- Head golden 3
- 3—Sharp contrasting line where yellow ground meets dark posterior patch; *Gaylussacia*-feeder *C. magnella*
- Yellow ground colour blending gradually into dark patch at tornus; *Vaccinium*-feeder *C. matheri*
- 4—Comb on valve of male genitalia with 7-9 teeth; *Kalmia*-feeder *C. kalmiella*
- Comb on valve of male genitalia with 5 teeth; *Vaccinium*-feeder *C. negligens*

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